

CORN EARWORM ON SOYBEAN

Helicoverpa zea (Boddie)

Description: The corn earworm (CEW) is a caterpillar (up to 1 ½ inch length) with many color variations. The body may be yellow green to dark brown and typically has dark, hairy warts. The head capsule is usually yellow-orange to brown. CEW larvae have a 4 + 1



Corn earworm on soybean leaf. (M. Shepard)

pattern of abdominal prolegs (4 pair in the middle of the body + 1 pair at the tail end). CEW larvae curl up on the soil surface or sampling cloth when disturbed. The moth (about 1 ½" wingspan) is yellow-brown, typically with a dark spot on the back half of the forewings. Behind this dark spot there is usually a dark area, followed by a lighter band, then a narrower dark band at the wing margin. Moths usually have green eyes and rest with the wings angled backward.



Corn earworm moth. (M. Shepard)

Damage is usually first noticed as foliage loss in the top of the canopy. Older damaged pods may have the individual seeds eaten through the pod wall. With small pods, the entire pod is consumed.

Biology: CEW overwinters in the soil as a pupa. Moths emerge in April and pass through two generations in corn before beginning to lay eggs in soybean in late July. In S. C. there are typically four CEW generations per year, each one lasting about a month. The third generation attacks early-planted soybean in late July to early August and the fourth generation may attack late-planted soybean in August to early September. Moths are attracted to open-canopied blooming fields where they lay eggs in terminal foliage. The newly hatched larvae feed first on the terminals and blooms before attacking pods and older leaves. The greatest threat to yield is from pod feeding, although populations as low as four per row ft. can completely defoliate small plants.



Corn earworm pod feeding.

Management: CEW populations are usually lower in reduced tillage systems because more beneficial insects are present. Agronomic practices which promote vigorous canopy growth also reduce the yield threat from CEW and most other soybean caterpillar pests. As with any crop, it is important to avoid unnecessary insecticide applications which kill

beneficial insects and trigger more severe pest outbreaks. Scout weekly for CEW from the last week of July through August using a 3' shake cloth with wooden dowel handles. After pushing one row out of the way, place the cloth between the rows, then bend 3 row ft. from the other row over the cloth. Beat the plants vigorously 20 times over the cloth, pull the plants back and count all larvae on the cloth. Look carefully for very small worms that may not move immediately. Add up the total larvae per three row ft. and record it. Take another count several rows away and sample at least two representative areas of a field.

After pods appear treat when there are two large ($\frac{1}{2}$ inch) CEW per row ft. Defoliation should not exceed 15 % after midbloom or 30 % before midbloom. If a 15" sweep net is used to sample drill beans, a treatment guideline of 4 CEW larvae per 10 sweeps can be used (note: sweep net thresholds

are still not well defined, and this should be considered an inexact guideline). For chemical control recommendations, see the current soybean insect control section of the Pest Management Handbook.

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